

REMARKS

Claims 36-38 and 40-76 stand rejected under 35 U.S.C. 112, 2nd paragraph, as failing to set forth the subject matter which applicant regards as the invention. The examiner asserts that applicant, in the reply filed 12/28/2005 (hereafter referred to as the previous reply), stated that the claims are to cover inventions that are stated in the detailed description section of the specification and not in the actual claim language. As an example, the examiner asserts that page 10 of the previous reply states intent to cover "vaguely stated subject matter." Applicant does not necessarily agree with the examiner's assessment but nevertheless regrets any misunderstanding resulting from the phrasing in the previous reply. Applicant requests that the examiner disregard any remarks in the previous reply that the examiner interprets as showing an intent by applicant to cover inventions beyond what is defined in the claims. Applicant submits that, upon consideration of the clarifying remarks below, it will be clear that claims 36-38 and 40-76 correspond in scope to the subject matter applicant regards as the invention. Further, applicant again submits that, despite any misunderstanding caused by the previous reply, the present invention, as variously defined by claims 36-38 and 40-76, is not disclosed or suggested by Matyas and Beelitz, whether taken singly or in combination.

In the application as originally filed, claim 36 contained the phrase "by reference." In the previous reply, this phrase was inadvertently transcribed as "but reference." Since the change was inadvertent, and not previously detected, it was not marked with underlining and strikeouts. Applicant has provided a copy of claim 36, as originally filed, above. Because claim 36 as set forth above is the same as claim 36 as originally filed, applicant has not shown the changes relative to claim 36 as included in the previous reply with underlining and strikeouts.

The present invention, as defined by claim 36, relates to computer software. The computer software is operable to provide protection for a second item of computer software. The protection software includes security means operable to authorize execution of the protected software in response to successful completion of one or more security checks. The security means has at least one block of

executable code which is stored in non-executable form and which requires execution to authorize execution of the protected software. The protection software also includes conversion means operable to convert the block of code to an executable form by means of an algorithm which requires at least one conversion key. The conversion means is further operable to derive a conversion key for use in the algorithm by reference to a target block of code in executable or non-executable form. An appropriate conversion key will be derived only if the target block is unmodified. This is the subject matter which applicant regards as the present invention, as defined by claim 36.

Applicant submits that the argument from the previous reply regarding the distinction between the present invention, as defined by claim 36, and what is described by Matyas and Beelitz is still applicable. This claim corresponds substantially to claim 51. It is therefore submitted that, for the reasons provided in the previous reply and above in connection with claim 51, the invention defined in claim 36 is not disclosed or suggested by Matyas and Beelitz, whether taken singly or in combination. It follows that dependent claims 37 and 38 are also patentable.

The present invention, as defined by claim 40, relates to a digital data arrangement. The digital data arrangement includes protected code and security code. The protected code includes incomplete executable code and the executable code includes one or more call instructions to the security code. The security code, when executed, replaces a respective call instruction with executable code such that the executable code of the protected code is completed upon execution of all call instructions. This is the subject matter which applicant regards as the present invention, as defined by claim 40.

In the previous reply, applicant stated, "Claim 40 covers the embodiment described as "Example 2" on pages 9 and 10 of the specification (page 10, previous reply). However, applicant now realizes this statement might be considered misleading. Applicant intended to communicate that "Example 2" of the specification shows how a digital data arrangement, embodying the present invention as defined by claim 40, could be created. In the specification "Example 2" describes how an ENGINE (indicated by reference numeral 30A in FIGs. 3a-e) operates on complete executable code (indicated by reference numerals 34, 20, 22, and 24 in FIG. 3b) to replace STEP 2

(20, FIG. 3b) with a call instruction (36, FIG. 3d) thus creating incomplete protected code (34, 36, 20, and 24). The call instruction (36) calls security code (38). The third paragraph of page 9 of the specification states that, upon execution of the call instruction (36), the security code (38) replaces the call instruction (36) with STEP 2 (20) and the incomplete protected code (34, 36, 20 and 24, FIG. 3D) is thereby completed.

Applicant submits that the argument from the previous reply regarding the distinction between the present invention, as defined by claim 40, and what is described by Matyas and Beelitz is still applicable. Neither Matyas nor Beelitz describe a digital data arrangement in which protected code includes one or more call instructions to security code which, when executed, causes the call instruction to be replaced by executable code. It is therefore submitted that the invention defined in claim 40 is not disclosed or suggested by Matyas and Beelitz, whether taken singly or in combination. Applicant submits that therefore claim 40 is patentable. It follows that dependent claims 41-50 are also patentable.

The present invention, as defined by claim 51, relates to a digital data arrangement. The digital data arrangement includes protected data provided in encrypted form, decryption instructions for decrypting the protected data, the decryption instructions being provided in a non-executable form, and executable conversion code. The executable conversion code is operable to derive a conversion key from a target block of data of the arrangement, convert the decryption instructions into an executable form by means of an algorithm that employs the conversion key, and execute the decryption instructions to decrypt the protected data. The decryption instructions are converted into an executable form only in the event that the target block of data is unmodified. This is the subject matter which applicant regards as the present invention, as defined by claim 51.

Applicant submits that the argument from the previous reply regarding the distinction between the present invention, as defined by claim 51, and what is described by Matyas and Beelitz is still applicable. Neither Matyas nor Beelitz describe a digital data arrangement in which decryption instructions for decrypting protected data are provided initially in a non-executable form. Moreover, there is no suggestion of converting the decryption instructions into an

executable form using a conversion key derived from a block of data of the digital data arrangement. It is therefore submitted that the invention defined in claim 51 is not disclosed or suggested by Matyas and Beelitz, whether taken singly or in combination. Applicant submits that therefore claim 51 is patentable. It follows that dependent claims 52-60 are also patentable.

The present invention, as defined by claim 61, relates to a digital data arrangement. The digital data arrangement includes executable code executable to create protected data. The protected data contains at least one executable instruction which contains a plurality of steps and the steps are executable in more than one order to implement the instruction. The executable code is operable to create the protected data by creating the steps in an order which changes on each execution of the executable code. This is the subject matter which applicant regards as the present invention, as defined by claim 61.

Applicant submits that the argument from the previous reply regarding the distinction between the present invention, as defined by claim 61, and what is described by Matyas and Beelitz is still applicable. Neither Matyas nor Beelitz describe a digital data arrangement in which executable code creates protected code having a plurality of executable steps that are written in a different order each time the executable code is executed. Instead, both Matyas and Beelitz describe conventional methods of compression and decryption in which the protected code, upon decryption, is written to memory in the same order each time. It is therefore submitted that the invention defined in claim 61 is not disclosed or suggested by Matyas and Beelitz, whether taken singly or in combination. Applicant submits that therefore claim 61 is patentable. It follows that dependent claims 62-64 are also patentable.

The present invention, as defined by claim 65, relates to a digital data arrangement. The digital data arrangement includes executable code. The executable code is executable to create a first part of protected code, to execute the first part of protected code, to subsequently create a second part of protected code, and to execute the second part of protected code. The first part of protected code is corrupted upon creation of the second part of protected code. This is

the subject matter which applicant regards as the present invention, as defined by claim 65.

Applicant submits that the argument from the previous reply regarding the distinction between the present invention, as defined by claim 65, and what is described by Matyas and Beelitz is still applicable. Neither Matyas nor Beelitz describe executable code that creates and executes only one part of protected code at any one time, whilst also ensuring that each part of the protected code is corrupted upon creation and execution of a new part of the protected code. It is therefore submitted that the invention defined in claim 65 is not disclosed or suggested by Matyas and Beelitz, whether taken singly or in combination. Applicant submits that therefore claim 65 is patentable. It follows that dependent claims 66-70 are also patentable.

The present invention, as defined by claim 71, relates to a digital data arrangement. The digital data arrangement includes protected code, security code and relocation code. The protected code includes at least one call instruction to the security code. The security code, when executed, detects corruption of the protected code and executes the relocation code in the event that no corruption is detected. The relocation code, when executed, changes the location of the security code and modifies the call instruction to refer to the new location. This is the subject matter which applicant regards as the present invention, as defined by claim 71.

Applicant submits that the argument from the previous reply regarding the distinction between the present invention, as defined by claim 71, and what is described by Matyas and Beelitz is still applicable. As noted in the previous reply, Matyas fails to teach or suggest a method of protecting against corruption. Additionally, Beelitz describes an anti-debug routine which monitors registers of a processor, and is therefore able to determine whether debug code has been. Beelitz fails to teach or suggest protected program code that includes instructions to a security code, which determines whether the. Moreover, Beelitz fails to teach or suggest an arrangement in which the location of the security code is constantly changing during execution of the protected code. It is therefore submitted that the invention defined in claim 71 is not disclosed or suggested by Matyas and Beelitz, whether taken singly or in combination. Applicant submits

that therefore claim 71 is patentable. It follows that dependent claims 72-76 are also patentable.

Respectfully submitted,



John Smith-Hill
Reg. No. 27,730

SMITH-HILL & BEDELL, P.C.
16100 N.W. Cornell Road, Suite 220
Beaverton, Oregon 97006

Tel. (503) 574-3100
Fax (503) 574-3197
Docket: FORR 2277